

Surface Resistance Measurements of Nb/Cu Samples With Vacuum Insulated Thermometers, S. Chel, M. Juillard, J P. Charrier, M. Ribeaudeau, G. Rousseau, CEA, DSM/DAPNIA/Service d'étude des accélérateurs, CE-SACLAY; M. Fouaidy, M. Caruette, IPN (CNRS-IN2P3) Orsay, - A cylindrical niobium TE011 cavity is used at Saclay for measuring by differential RF method the surface resistance of superconducting thin films (Nb and NbTiN) sputtered on removable copper disks. In order to increase the measurement accuracy, mainly at 4 K and for low fields levels, we have developed from thermal calculations with a CASTEM code a thermometric method. Thermal sensors pressed on the back side of the disk are placed in a vacuum chamber ; a heater on the centre of the sample allows a thermal calibration without knowing the thermal exchange parameters. The resulting RF surface at 1,7K and 4,2K is compared to the measurement obtained by the classical RF method.